

## **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application.

### **Listing of Claims:**

1. (currently amended) A method for selectively collecting information from a plurality of logical segments in a computing environment, the method comprising:
  - controllably designating one of a plurality of information storage modes, wherein each of the information storage modes identifies a different set of information from the plurality of logical segments to be stored and identifies one or more conditions occurring in the computing environment under which the designated set of information will be stored;
  - controllably designating at least one of a plurality of data collection periods ~~based on operational~~ defined by events occurring within designated portions of ~~in the~~ computing environment, each of the plurality of data collection periods defining a respective temporal window in which storage of the designated set of information is enabled; and
  - storing the designated set of information identified by the designated information storage mode only during the temporal window corresponding to the designated data collection period.
2. (original) The method of Claim 1, further comprising controllably designating an information retrieval mode, wherein retrieval of the stored set of information is enabled in response thereto.
3. (original) The method of Claim 2, wherein controllably designating an information retrieval mode comprises substituting the designation of the information storage mode with the designation of the information retrieval mode.
4. (currently amended) The method of Claim 1, wherein controllably designating at least one of a plurality of data collection periods comprises controllably designating at least

one of a plurality of predetermined data collection commencement events, wherein the data collection period commences upon recognition of at least one of the events occurring within the designated portions of the computing environment~~designated data collection commencement event~~.

5. (currently amended) The method of Claim 1, wherein controllably designating at least one of a plurality of data collection periods comprises controllably designating at least one of a plurality of predetermined data collection termination events, wherein the data collection period terminates upon recognition of at least one of the events occurring within the designated portions of the computing environment~~the designated data collection termination event~~.

6. (original) The method of Claim 1, further comprising dynamically reconfiguring the information storage modes to designate a different set of information from a different one of the plurality of logical segments to be stored.

7. (previously presented) The method of Claim 1, further comprising dynamically reconfiguring the data collection periods to designate a different one of the temporal windows in which storage of the designated set of information is enabled.

8. (currently amended) The method of Claim 1:

wherein controllably designating at least one of a plurality of data collection periods comprises controllably designating at least one data collection commencement event among a plurality of data collection commencement events, wherein the data collection period commences upon recognition of at least one of the events occurring within the designated portions of the computing environment~~the at least one data collection commencement event that was designated~~;

wherein controllably designating at least one of a plurality of data collection periods comprises controllably designating at least one data collection termination event among a plurality of data collection termination events, wherein the data collection period

terminates upon recognition of at least one of the events occurring within the designated portions of the computing environment~~the at least one data collection termination event that was designated~~; and

further comprising reconfiguring the data collection periods by dynamically reconfiguring at least one of the designated data collection events and the designated data termination events.

9. (currently amended) A system for selectively collecting information in a computing environment having a plurality of functional modules, wherein each functional module is associated with time-varying operational information as each functional module operates, and wherein analysis of the operational information may be used to identify operational defects in the computing environment, the system comprising:

a memory for storing the operational information associated with the functional modules;

a control interface to provide selectable write mode identifiers, collection initiation identifiers and collection termination identifiers;

a dynamically-configurable write mode selection module coupled to the control interface to receive one of a plurality of the selectable write mode identifiers, and to enable the storing in the memory of selected subsets of the operational information ~~to be stored in the memory~~ based on one or more conditions occurring in one or more of the functional modules, in response to the received write mode identifier; and

a dynamically-configurable timing control module coupled to the control interface to receive one of a plurality of the collection initiation identifiers and one of a plurality of the collection termination identifiers, to enable storing of the selected subset of operational information into the memory upon activation of an initiation event occurring within at least one of the functional modules and corresponding to the received collection initiation identifier, and to terminate storing of the selected subset of operational information into the memory upon activation of a termination event occurring within at least one of the functional modules and corresponding to the received collection termination identifier.

10. (currently amended) A system for selectively collecting information in a computing environment having a plurality of functional modules, wherein each functional module is associated with time-varying operational information as each functional module operates, and wherein analysis of the operational information may be used to identify operational defects in the computing environment, the system comprising:

a memory for storing the operational information associated with the functional modules;

a control interface to provide selectable write mode identifiers, collection initiation identifiers and collection termination identifiers;

a dynamically-configurable write mode selection module coupled to the control interface to receive one of a plurality of the selectable write mode identifiers, and to enable the storing in the memory of selected subsets of the operational information ~~to be stored in the memory based on one or more conditions occurring in one or more of the functional modules,~~ in response to the received write mode identifier; and

a dynamically-configurable timing control module coupled to the control interface to receive one of a plurality of the collection initiation identifiers and one of a plurality of the collection termination identifiers, to enable storing of the selected subset of operational information into the memory upon activation of an initiation event occurring within at least one of the functional modules and corresponding to the received collection initiation identifier, and to terminate storing of the selected subset of operational information into the memory upon activation of a termination event occurring within at least one of the functional modules and corresponding to the received collection termination identifier, wherein the dynamically-configurable write mode selection module comprises a write mode scan register that is loaded via a dynamic scan operation.

11. (currently amended) A system for selectively collecting information in a computing environment having a plurality of functional modules, wherein each functional module is associated with time-varying operational information as each functional module operates, and wherein analysis of the operational information may be used to identify operational defects in the computing environment, the system comprising:

a memory for storing the operational information associated with the functional modules;

a control interface to provide selectable write mode identifiers, collection initiation identifiers and collection termination identifiers;

a dynamically-configurable write mode selection module coupled to the control interface to receive one of a plurality of the selectable write mode identifiers, and to enable the storing in the memory of selected subsets of the operational information ~~to be stored in the memory~~ based on one or more conditions occurring in one or more of the functional modules, in response to the received write mode identifier; and

a dynamically-configurable timing control module coupled to the control interface to receive one of a plurality of the collection initiation identifiers and one of a plurality of the collection termination identifiers, to enable storing of the selected subset of operational information into the memory upon activation of an initiation event occurring within at least one of the functional modules and corresponding to the received collection initiation identifier, and to terminate storing of the selected subset of operational information into the memory upon activation of a termination event occurring within at least one of the functional modules and corresponding to the received collection termination identifier, wherein the dynamically-configurable timing control module comprises a timing control scan register that is loaded via a dynamic scan operation.

12. (currently amended) A system for selectively collecting information in a computing environment having a plurality of functional modules, wherein each functional module is associated with time-varying operational information as each functional module operates, and wherein analysis of the operational information may be used to identify operational defects in the computing environment, the system comprising:

a memory for storing the operational information associated with the functional modules;

a control interface to provide selectable write mode identifiers, collection initiation identifiers and collection termination identifiers;

a dynamically-configurable write mode selection module coupled to the control interface to receive one of a plurality of the selectable write mode identifiers, and to enable the storing in the memory of selected subsets of the operational information ~~to be stored in the memory~~ based on one or more conditions occurring in one or more of the functional modules, in response to the received write mode identifier; and

a dynamically-configurable timing control module coupled to the control interface to receive one of a plurality of the collection initiation identifiers and one of a plurality of the collection termination identifiers, to enable storing of the selected subset of operational information into the memory upon activation of an initiation event occurring within at least one of the functional modules and corresponding to the received collection initiation identifier, and to terminate storing of the selected subset of operational information into the memory upon activation of a termination event occurring within at least one of the functional modules and corresponding to the received collection termination identifier, wherein the dynamically-configurable write mode selection module further comprises means for enabling the selected subset of the operational information to be stored in the memory if the subset of operational information changes from a first defined time to a second defined time, in response to a corresponding write mode selection identifier.

13. (currently amended) A system for selectively collecting information in a computing environment having a plurality of functional modules, wherein each functional module is associated with time-varying operational information as each functional module operates, and wherein analysis of the operational information may be used to identify operational defects in the computing environment, the system comprising:

a memory for storing the operational information associated with the functional modules;

a control interface to provide selectable write mode identifiers, collection initiation identifiers and collection termination identifiers;

a dynamically-configurable write mode selection module coupled to the control interface to receive one of a plurality of the selectable write mode identifiers, and to enable the storing in the memory of selected subsets of the operational information ~~to be stored in the~~

~~memory~~ based on one or more conditions occurring in one or more of the functional modules,  
in response to the received write mode identifier; and

a dynamically-configurable timing control module coupled to the control interface to receive one of a plurality of the collection initiation identifiers and one of a plurality of the collection termination identifiers, to enable storing of the selected subset of operational information into the memory upon activation of an initiation event occurring within at least one of the functional modules and corresponding to the received collection initiation identifier, and to terminate storing of the selected subset of operational information into the memory upon activation of a termination event occurring within at least one of the functional modules and corresponding to the received collection termination identifier, wherein the dynamically-configurable write mode selection module further comprises means for enabling the selected subset of the operational information to be stored in the memory, if a current function value within the selected subset of operational information matches a predetermined function value, and if a current address value within the selected subset of operational information matches a predetermined address value, in response to a corresponding write mode selection identifier.

14. (original) The system as in Claim 9, wherein the dynamically-configurable write mode selection module further comprises means for enabling the selected subset of the operational information to be stored in the memory if the subset of operational information is received from a predetermined one or more of the functional modules.

15. (original) The system as in Claim 9, wherein the dynamically-configurable timing control module comprises a dynamically-scannable register coupled to the control interface to receive and store the collection initiation identifiers and the collection termination identifiers, wherein the dynamically-scannable register includes a plurality of outputs to provide capture enable/disable signals to enable storing of the selected subset of operational information into the memory upon activation of an initiation event corresponding to the collection initiation identifier, and to terminate storing of the selected subset of operational information into the

memory upon activation of a termination event corresponding to the collection termination identifier.

16. (original) The system as in Claim 9, further comprising:

a data interface coupled to receive the operational information from the functional modules; and

a multiplexing module coupled to the data interface to exclude the operational information external to the selected subset of operational information identified by the selectable write mode identifiers.

17. (original) The system as in Claim 16, further comprising a write data register coupled to the multiplexing module to receive and store the selected subset of operational information.

18. (original) The system as in Claim 9, further comprising a dynamically-configurable read mode selection module coupled to the control interface to receive a selectable read mode identifier, and to enable the selected subset of operational information stored in the memory to be accessed.

19. (previously presented) A system for selectively collecting information in a computing environment having a plurality of functional modules, wherein each functional module is associated with time-varying operational information as each functional module operates, and wherein analysis of the operational information may be used to identify operational defects in the computing environment, the system comprising:

a memory for storing the operational information associated with the functional modules;

a control interface to provide selectable write mode identifiers, selectable read mode identifiers, collection initiation identifiers and collection termination identifiers;

a dynamically-configurable write mode selection module coupled to the control interface to receive one of a plurality of the selectable write mode identifiers, and to enable



selected subsets of the operational information to be stored in the memory in response to the received write mode identifier;

a dynamically-configurable timing control module coupled to the control interface to receive one of a plurality of the collection initiation identifiers and one of a plurality of the collection termination identifiers, to enable storing of the selected subset of operational information into the memory upon activation of an initiation event corresponding to the received collection initiation identifier, and to terminate storing of the selected subset of operational information into the memory upon activation of a termination event corresponding to the received collection termination identifier;

a dynamically-configurable read mode selection module coupled to the control interface to receive the selectable read mode identifier, and to enable the selected subset of operational information stored in the memory to be accessed; and

a dynamically-configurable read data register coupled to the memory to receive and temporarily store the selected subset of operational information in response to the selectable read mode identifier.

20. (original) The system as in Claim 19, further comprising:

a data interface coupled to receive the operational information from the functional modules;

a multiplexing module coupled to the data interface to exclude the operational information external to the selected subset of operational information identified by the selectable write mode identifiers;

a write data register coupled to the multiplexing module to receive and store the selected subset of operational information; and

a second multiplexing module coupled between the memory and the dynamically-configurable read data register to selectively allow the selected subset of information from the write data register or from the memory to be transmitted to the dynamically-configurable read data register.

21. (original) The system as in Claim 19, wherein the dynamically-configurable read data register is read via a dynamic scan operation.

22. (previously presented) The system as in Claim 19, wherein the dynamically-configurable read mode selection module comprises a read mode scan register that is loaded via a dynamic scan operation.

23. (currently amended) A system for selectively collecting information in a computing environment having a plurality of functional modules, wherein each functional module is associated with time-varying operational information as each functional module operates, and wherein analysis of the operational information may be used to identify operational defects in the computing environment, the system comprising:

- a memory for storing the operational information associated with the functional modules;

- a control interface to provide selectable write mode identifiers, collection initiation identifiers and collection termination identifiers;

- a dynamically-configurable write mode selection module coupled to the control interface to receive one of a plurality of the selectable write mode identifiers, and to enable the storing in the memory of selected subsets of the operational information to be stored in the memory based on one or more conditions occurring in one or more of the functional modules, in response to the received write mode identifier; and

- a dynamically-configurable timing control module coupled to the control interface to receive one of a plurality of the collection initiation identifiers and one of a plurality of the collection termination identifiers, to enable storing of the selected subset of operational information into the memory upon activation of an initiation event occurring within at least one of the functional modules and corresponding to the received collection initiation identifier, and to terminate storing of the selected subset of operational information into the memory upon activation of a termination event occurring within at least one of the functional modules and corresponding to the received collection termination identifier,

wherein the computing environment is an integrated circuit, and wherein at least one of the plurality of functional modules are predetermined logical sections of the integrated circuit.

24. (original) The system as in Claim 23, wherein at least one of the plurality of functional modules are external to the integrated circuit.

25. (currently amended) A method for selectively collecting information from a plurality of functional modules in a computing environment, the method comprising:

selecting an information storage mode from a plurality of available information storage modes, wherein each of the information storage modes identifies a different set of information to be stored from the others of the plurality of functional modules and identifies one or more conditions occurring in one or more of the functional modules under which the identified set of information will be stored;

designating one of a plurality of storage commencement events, wherein each of the storage commencement events identifies at least one[[a]] different triggering event occurring within one or more of the functional modules to enable storage of the identified~~designated~~ set of information to begin;

designating one of a plurality of storage termination events, wherein each of the storage termination events identifies at least one[[a]] different triggering event occurring within one or more of the functional modules to discontinue storage of the identified~~designated~~ set of information;

monitoring for activation of the designated storage commencement event;

enabling storage of the identified~~designated~~ set of information, as governed by the selected~~designated~~ information storage mode, upon recognition of the activation of the designated storage commencement event;

monitoring for activation of the designated storage termination event; and

disabling storage of the identified~~designated~~ set of information upon recognition of the activation of the designated storage termination event.

26. (original) The method of Claim 25, wherein enabling storage of the designated set of information comprises storing the designated set of information in a memory, and wherein the method further comprises retrieving the set of information stored in the memory.

27. (original) The method of Claim 26, further comprising reconfiguring the designated information storage mode to designate an information retrieval mode, and wherein retrieving the set of information comprises retrieving the set of information from the memory in response to the designation of the information retrieval mode.

28. (original) The method of Claim 27, wherein reconfiguring the designated information storage mode comprises dynamically scanning a retrieval mode identification into a scan register to designate the information retrieval mode.

29. (original) The method of Claim 25, further comprising reconfiguring the designated information storage mode to designate another one of the plurality of information storage modes.

30. (currently amended) A method for selectively collecting information from a plurality of functional modules in a computing environment, the method comprising:

designating one of a plurality of information storage modes, wherein each of the information storage modes identifies a different set of information from the plurality of functional modules to be stored and identifies one or more conditions occurring in the computing environment under which the designated set of information will be stored;

designating one of a plurality of storage commencement events, wherein each of the storage commencement events identifies at least one[[a]] different triggering event occurring within one or more of the functional modules to enable storage of the designated set of information to begin;

designating one of a plurality of storage termination events, wherein each of the storage termination events identifies at least one[[a]] different triggering event occurring

within one or more of the functional modules to discontinue storage of the designated set of information;

monitoring for activation of the designated storage commencement event;

enabling storage of the designated set of information, as governed by the designated information storage mode, upon recognition of the activation of the designated storage commencement event;

monitoring for activation of the designated storage termination event;

disabling storage of the designated set of information upon recognition of the activation of the designated storage termination event; and

reconfiguring the designated information storage mode to designate another one of the plurality of information storage modes, wherein reconfiguring the designated information storage mode comprises dynamically scanning a storage mode identification into a scan register to designate the information storage mode.

31. (original) The method of Claim 25, further comprising reconfiguring the designated storage commencement event to designate another one of the plurality of storage commencement events.

32. (original) The method of Claim 31, wherein reconfiguring the designated storage commencement event comprises dynamically scanning a storage commencement identification into a scan register to designate the storage commencement event.

33. (original) The method of Claim 25, further comprising reconfiguring the designated storage termination event to designate another one of the plurality of storage termination events.

34. (original) The method of Claim 33, wherein reconfiguring the designated storage termination event comprises dynamically scanning a storage termination identification into a scan register to designate the storage termination event.

35. (currently amended) The method of Claim 1, further comprising controllably designating at least one of the plurality of data collection periods based on a commencement event independent of the events occurring within designated portions of the operational events ~~occurring in the~~ computing environment.

36. (currently amended) The method of Claim 1, further comprising controllably designating at least one of the plurality of data collection periods based on a termination event independent of the events occurring within designated portions of the operational events ~~occurring in the~~ computing environment.